



Environmental Energy Technologies Division

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Subject: Comments on addition of distribution reliability questions to EIA-861

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Thank you for the opportunity to provide comments on the proposed Form EIA-861. We also appreciated the opportunity to provide input as the EIA-861 was being developed.

We strongly support EIA's proposal to collect data on distribution reliability in EIA-861 Schedule 6 Part F, Distribution System Reliability Information, for several reasons:

1. It is in the public interest
2. EIA is uniquely situated to collect this information in a meaningful way on a national basis
3. LBNL past research supports the need for and importance of this data collection

1. It is in the public interest

Utility-level system average interruption frequency index (SAIFI) and system average interruption duration index (SAIDI) are two well-known and widely used reliability metrics. These measures provide information on how customers experience the reliability of the electricity system.

The availability of these metrics, from all utilities in the country using the same methodology, is in the public interest because these data inform reliability activities of many groups. They are used by both utilities and State and Federal regulators to help assess, improve, and manage reliability. Additionally, these data can inform national decisions makers in development of policies, rules and regulations on reliability. In particular, these data would inform DOE and other R&D organizations on priorities for (and efficacy of) R&D on reliability technologies and practices.

Tracking these measures over time can provide insight into whether reliability (defined as customer service and interruptions) is improving or degrading, and whether and how that might be related to policies and actions taken with the goal of improving reliability. Given the substantial investments in infrastructure and programs, including smart grid investments, it is important for industry and government to know whether reliability is moving in a positive direction, or whether we should be pursuing a different set of policies and investments. Having a

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consistent, data set on reliability is crucial to providing this information. Current reliability data reporting does not provide a consistent data set. (Eto et al. 2012, pg 244)

2. EIA is uniquely situated to collect this information in a meaningful way on a national basis

EIA is the only organization with a mandate and the standing necessary to require the collection of reliability data on a national basis and make it publicly available. Currently no mandatory data collection effort exists. EIA's proposal will fill this gap by collecting meaningful reliability data calculated using a consistent methodology. EIA also has the ability to collect these data from all utilities in the country, thus creating a comprehensive national data set.

3. LBNL past research supports the need for and importance of this data collection

LBNL's past research directly supports the specific forms and approaches EIA has proposed to collect reliability information from electric utilities.

Our work over the past ten years has revealed a lack of consistently defined, publicly-available data on distribution reliability. (Eto et al. 2012, pp 243-244) Currently, utility and PUC practices vary considerably on definitions used to measure reliability performance, and whether these measures are publicly available. Power providers may be required to report reliability measures to their state regulators, and while some of these data may be publicly available many are not. In recent reports, we collected annual SAIDIs and SAIFIs from utilities and PUCs and were able to obtain data representing roughly half of the total electricity sales in the U.S. (Eto et al. 2012, pg 244-245; Eto and LaCommare 2008, pp 4, 10) In our work, we found that the data are not consistently measured and reported. Many factors defining which reliability events are included in SAIDI and SAIFI, such as the defined length of a sustained interruption and what constitutes a major event, vary among states and utilities. (Eto and LaCommare 2008, pg 8, 11-12, 17-19) This inconsistency makes it almost impossible to measure reliability across the country.

Industry trade organizations (EEI, APPA, NRECA) and industry professional organizations (IEEE) do not make these data publicly available, nor, with the exception of IEEE, do they enforce use of consistent definitions. (Eto et al. 2012, pg 244) IEEE does collect these data on a voluntary basis, but, because it is not required from all utilities, this does not represent a national census of all utility performance. (IEEE Distribution Reliability Working Group 2012) Moreover, the utilities providing information are not identified or associated with any information about them such as location or customer base characteristics. Existing national reliability data collection efforts by the Office of Electricity Delivery and Energy Reliability (OE), Department of Energy, and by the National Energy Reliability Corporation (NERC) are restricted to the reliability of the bulk power system, which accounts for less than 10% of the interruptions experiences by utility customers.

We support EIA's proposal to encourage utilities to report SAIDI and SAIFI values using the definitions and guidelines laid out in the IEEE Std 1366-2003 (and the most recent version, the 1366-2012), *IEEE Guide for Electric Power Distribution Reliability Indices*. (IEEE Power Engineering Society 2004, IEEE Power Engineering Society 2012) The IEEE Standard offers a consistent approach for defining and measuring reliability and has already been widely adopted by industry, so requesting that utilities follow the standard in providing this information should

not create a new or undue burden. Obtaining SAIDI and SAIFI values that follow these guidelines will produce a data set that is consistently calculated and for which the calculations are known and have been vetted by an important industry group (IEEE). While there are differences between the Standards 1366-2003 and 1366-2012, none of the differences will affect the data being requested by EIA in the current proposed version of EIA-861.¹

LBNL agrees that enabling utilities to report using definitions and practices other than those prescribed in IEEE Standard 1366-2003 or 1366-2012 is appropriate for the initial release of proposed revisions to EIA-861 only if additional requested information describing how reporting varies from this Standard is also included in the form. In the proposed EIA-861 these clarifying questions are included in Schedule 6 Part F, Section 2, lines 13 to 16. However, to promote consistency in the data set, LBNL recommends phasing-out this alternative reporting option in the next revision of Form EIA-861.

Again, thank you for this opportunity to comment.

References

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<http://grouper.ieee.org/groups/td/dist/sd/doc/2012-07-01-Benchmarking-Results-2011.pdf>

IEEE Power Engineering Society, *IEEE Std 1366-2012 (Revision of IEEE Std 1366-2003): IEEE Guide for Electric Power Distribution Reliability Indices*. New York: Institute of Electrical and Electronics Engineers, Inc., May 31, 2012.

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¹ The difference between Std 1366-2003 and Std 1366-2012 include introduction of two new indices describing customers experiencing long interruption durations, CELID-s and CELID-t, a new section explaining investigation of catastrophic days, and clarification (but not modification) of some definitions.